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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,584	06/27/2003	Yu Liu	03501.141	5810

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EXAMINER	
VATHYAM, SUREKHA	
ART UNIT	PAPER NUMBER
1753	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/607,584	LIU ET AL.	
	Examiner	Art Unit	
	Surekha Vathyam	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-19 and 21-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-19 and 21-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 June 2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 7 and 25 each recite the limitation "said reducing reagent" in lines 1 – 2 of claims 7 and 25. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1, 3 – 9, 11 – 13, 16 – 19, 21 – 27, 29 – 31 and 34 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guttman et al. (US 5,370,777).

Regarding claim 1, Guttman ('777) discloses an aqueous gel medium (column 6, lines 44 – 51) for facilitating the electrophoretic separation of analytes present in a sample (column 5, line 36 – 40), said medium comprising: a non-crosslinked (column 9, lines 22 – 37) hydrophilic polymer (column 8, lines 45 – 54);

tris(hydroxymethyl)aminomethane – borate buffer (column 5, lines 63 – 67); sodium dodecyl sulfate (column 9, lines 53 – 55); and an organic additive (column 9, lines 38 – 45); said gel medium additionally contains one or more reagent(s) that function to help keep protein analytes in a reduced form (column 18, lines 22 – 42 and column 19, lines 4 – 8); and said aqueous gel medium is capable of facilitating the electrophoretic separation of said analytes via capillary electrophoresis (column 5, lines 36 – 40) using an uncoated capillary tube (column 6, lines 52 – 67, column 9, lines 64 – 68 and column 11, lines 43 – 47) by comprising a molecular sieve (column 9, lines 14 – 21).

Guttman ('777) further discloses that the pH of the tris(hydroxymethyl)aminomethane – borate buffer is "preferably between about 8.0 and about 8.5, and most preferably about 8.3" (column 13, lines 12 – 16). Guttman ('777) also discloses the pH of the buffer should be in the alkaline range for anionic surfactants such as sodium dodecyl sulfate (SDS), i.e., between about 8.0 and 10.0 (column 13, lines 6 – 11) and with respect to SDS surfactant, a most preferred pH is about 8.8 (column 13, lines 11 – 12). The difference between instant claim 1 and Guttman ('777) is that claim 1 requires a pH above 8.0 and below 8.3, while Guttman ('777) does not disclose a specific point within this range but instead discloses ranges encompassing the claimed range such as about 8.0 to about 8.5 (column 13, lines 12 – 16) and between about 8.0 and 10.0 (column 13, lines 6 – 11) as well as the overlapping range "about 8.3". In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). "[A] prior art reference that discloses a range

encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). The term "most preferred pH" with regards to the SDS surfactant (column 13, lines 11 – 12), is not a limiting term. Guttman ('777) discloses a pH range between "about 8.0 and 10.0" for anionic surfactants (column 13, lines 6 – 11). It would have been obvious to one of ordinary skill in the art to have clearly understood that there could be other pH values in the range. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Guttman ('777) discloses reagents such as DTT, 2-mercaptoethanol (column 18, lines 22 – 42) and EDTA (column 19, lines 4 – 5) that help keep protein analytes in a reduced form, introduced into the gel medium (column 18, lines 39 – 42 and column 19, lines 5 – 8). These reagents by virtue of being very small molecules, will diffuse into the gel. Additionally, EDTA, being a charged molecule will easily migrate through the gel. Alternatively, the reducing agent will break the disulfide bonds in protein analytes and the resultant product with sulfhydryl groups (-SH) are reducing agents.

Regarding claim 3, Guttman ('777) discloses the aqueous gel medium wherein said one or more reagent(s) include a reducing reagent (column 18, lines 22 – 42).

Regarding claim 4, Guttman ('777) discloses the aqueous gel medium wherein said reducing reagent is selected from the group consisting of 2-mercaptoethanol,

dithiothreitol (DTT), dithioerythreitol (DTE), and tris(2-carboxyethyl)phosphine (column 18, lines 22 – 42).

Regarding claim 5, Guttman ('777) discloses the aqueous gel medium wherein said reducing reagent is dithiothreitol (DTT) (column 18, lines 22 – 42).

Regarding claim 6, Guttman ('777) discloses the aqueous gel medium wherein said one or more reagent(s) include a metal ion chelator (column 19, lines 4 – 5).

Regarding claim 7, Guttman ('777) discloses the aqueous gel medium wherein said reducing reagent is ethylenediaminetetraacetic acid (EDTA) (column 19, lines 4 – 8).

Regarding claim 8, Guttman ('777) discloses the aqueous gel medium wherein said non-crosslinked hydrophilic polymer is selected from the group consisting of: dextran, polyacrylamide, cellulose derivatives and polyethylene oxide (column 8, lines 50 – 54).

Regarding claim 9, Guttman ('777) discloses the aqueous gel medium wherein said non-crosslinked hydrophilic polymer is dextran (column 8, lines 50 – 54).

Regarding claim 11, Guttman ('777) discloses the aqueous gel medium wherein said organic additive is an alcohol (column 9, lines 38 – 45).

Regarding claim 12, Guttman ('777) discloses the aqueous gel medium wherein said alcohol is present at a concentration of from about 0.1% to about 30% (V/V) (column 9, lines 23 – 30).

Regarding claim 13, Guttman ('777) discloses the aqueous gel medium wherein said alcohol is selected from the group consisting of: methanol, ethanol, ethylene glycol and glycerol (column 9, lines 38 – 45).

Regarding claim 16, Guttman ('777) discloses the aqueous gel medium wherein said Tris-borate buffer is present at a concentration of from about 0.1 M to about 1.0M (column 10, lines 51 – 54).

Regarding claim 17, Guttman ('777) discloses the aqueous gel medium wherein the pH is "preferably between about 8.0 and about 8.5, and most preferably about 8.3" (column 13, lines 12 – 16). Guttman ('777) also discloses the pH of the buffer should be in the alkaline range for anionic surfactants such as sodium dodecyl sulfate (SDS), i.e., between about 8.0 and 10.0 (column 13, lines 6 – 11). The difference between instant claim 17 and Guttman ('777) is that claim 17 requires a pH of 8.1 ± 0.1, while Guttman ('777) does not disclose a specific point within this range but instead discloses ranges encompassing the claimed range such as about 8.0 to about 8.5 (column 13, lines 12 – 16) and between about 8.0 and 10.0 (column 13, lines 6 – 11). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003).

Regarding claim 18, Guttman ('777) discloses the aqueous gel medium wherein said analytes include analytes selected from the group consisting of: proteins, polypeptides, peptides and nucleic acid molecules (column 10, lines 1 – 20).

Regarding claim 19, Guttman ('777) discloses a capillary electrophoresis system column 6, lines 44 – 51) comprising an uncoated capillary tube (column 6, lines 52 – 67, column 9, lines 64 – 68 and column 11, lines 43 – 47) containing an aqueous gel medium (column 6, lines 44 – 51), said medium comprising: a non-crosslinked (column 9, lines 22 – 37) hydrophilic polymer (column 8, lines 45 – 54); tris(hydroxymethyl)aminomethane – borate buffer (column 5, lines 63 – 67); sodium dodecyl sulfate (column 9, lines 53 – 55); and an organic additive (column 9, lines 38 – 45); said gel medium additionally contains one or more reagent(s) that function to help keep protein analytes in a reduced form (column 18, lines 22 – 42 and column 19, lines 4 – 8) and said aqueous gel medium facilitates the electrophoretic separation of said analytes (column 5, line 36 – 40) by comprising a molecular sieve (column 9, lines 14 – 21).

Guttman ('777) further discloses that the pH of the tris(hydroxymethyl)aminomethane – borate buffer is "preferably between about 8.0 and about 8.5, and most preferably about 8.3" (column 13, lines 12 – 16). Guttman ('777) also discloses the pH of the buffer should be in the alkaline range for anionic surfactants such as sodium dodecyl sulfate (SDS), i.e., between about 8.0 and 10.0 (column 13, lines 6 – 11) and with respect to SDS surfactant, a most preferred pH is about 8.8

(column 13, lines 11 – 12). The difference between instant claim 1 and Guttman ('777) is that claim 1 requires a pH above 8.0 and below 8.3, while Guttman ('777) does not disclose a specific point within this range but instead discloses ranges encompassing the claimed range such as about 8.0 to about 8.5 (column 13, lines 12 – 16) and between about 8.0 and 10.0 (column 13, lines 6 – 11) as well as the overlapping range "about 8.3". In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). The term "most preferred pH" with regards to the SDS surfactant (column 13, lines 11 – 12), is not a limiting term. Guttman ('777) discloses a pH range between "about 8.0 and 10.0" for anionic surfactants (column 13, lines 6 – 11). It would have been obvious to one of ordinary skill in the art to have clearly understood that there could be other pH values in the range. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Guttman ('777) discloses reagents such as DTT, 2-mercaptoethanol (column 18, lines 22 – 42) and EDTA (column 19, lines 4 – 5) that help keep protein analytes in a reduced form, introduced into the gel medium (column 18, lines 39 – 42 and column 19, lines 5 – 8). These reagents by virtue of being very small molecules, will diffuse into the

gel. Additionally, EDTA, being a charged molecule will easily migrate through the gel. Alternatively, the reducing agent will break the disulfide bonds in protein analytes and the resultant product with sulfhydryl groups (-SH) are reducing agents.

Regarding claim 21, Guttman ('777) discloses the capillary electrophoresis system wherein said one or more reagent(s) include a reducing reagent (column 18, lines 22 – 42 and column 19, lines 4 – 5).

Regarding claim 22, Guttman ('777) discloses the capillary electrophoresis system wherein said reducing reagent is selected from the group consisting of 2-mercaptoethanol, dithiothreitol (DTT), dithioerythreitol (DTE), and tris(2-carboxyethyl)phosphine (column 18, lines 22 – 42).

Regarding claim 23, Guttman ('777) discloses the capillary electrophoresis system wherein said reducing reagent is dithiothreitol (DTT) (column 18, lines 22 – 42).

Regarding claim 24, Guttman ('777) discloses the capillary electrophoresis system wherein said one or more reagent(s) include a metal ion chelator (column 19, lines 4 – 5).

Regarding claim 25, Guttman ('777) discloses the capillary electrophoresis system wherein said reducing reagent is ethylenediaminetetraacetic acid (EDTA) (column 19, lines 4 – 8).

Regarding claim 26, Guttman ('777) discloses the capillary electrophoresis system wherein said non-crosslinked hydrophilic polymer is selected from the group

consisting of: dextran, polyacrylamide, cellulose derivatives and polyethylene oxide (column 8, lines 50 – 54).

Regarding claim 27, Guttman ('777) discloses the capillary electrophoresis system wherein said non-crosslinked hydrophilic polymer is dextran (column 8, lines 50 – 54).

Regarding claim 29, Guttman ('777) discloses the capillary electrophoresis system wherein said organic additive is an alcohol (column 9, lines 38 – 45).

Regarding claim 30, Guttman ('777) discloses the capillary electrophoresis system wherein said alcohol is present at a concentration of from about 0.1% to about 30% (V/V) (column 9, lines 23 – 30).

Regarding claim 31, Guttman ('777) discloses the capillary electrophoresis system wherein said alcohol is selected from the group consisting of: methanol, ethanol, ethylene glycol and glycerol (column 9, lines 38 – 45).

Regarding claim 34, Guttman ('777) discloses the capillary electrophoresis system wherein said Tris-borate buffer is present at a concentration of from about 0.1 M to about 1.0M (column 10, lines 51 – 54).

Regarding claim 35, Guttman ('777) discloses the capillary electrophoresis system wherein the pH is "preferably between about 8.0 and about 8.5, and most preferably about 8.3" (column 13, lines 12 – 16). Guttman ('777) also discloses the pH of the buffer should be in the alkaline range for anionic surfactants such as sodium dodecyl sulfate (SDS), i.e., between about 8.0 and 10.0 (column 13, lines 6 – 11). The difference between instant claim 17 and Guttman ('777) is that claim 17 requires a pH of

8.1 ± 0.1, while Guttman ('777) does not disclose a specific point within this range but instead discloses ranges encompassing the claimed range such as about 8.0 to about 8.5 (column 13, lines 12 – 16) and between about 8.0 and 10.0 (column 13, lines 6 – 11). In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003).

Regarding claim 36, Guttman ('777) discloses the capillary electrophoresis system wherein said analytes include analytes selected from the group consisting of: proteins, polypeptides, peptides, polysaccharides, and nucleic acid molecules (column 10, lines 1 – 20).

9. Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guttman et al. (US 5,370,777) in view of "Dextran Product Information" Sigma-Aldrich (2001) found at http://www.sigmaaldrich.com/sigma-aldrich/product_information_sheet/d5376pis.pdf.

Guttman ('777) discloses the aqueous gel medium as discussed with regards to claim 9 above.

Regarding claim 10, Guttman ('777) discloses the aqueous gel medium wherein said dextran has a molecular weight of 2,000 kilodaltons (column 5, lines 63 – 67) but

does not explicitly disclose the linkages therein. The Dextran Product Information reference is cited as evidence that commercially available dextran possesses a non-cross-linked structure composed of approximately 95% alpha-D-(1-6) linkages (1st page left hand column, Product Description paragraph, first 4 lines). Guttman ('777) discloses the molecular weight of dextran but not its composition. Therefore, it would have been obvious to one of ordinary skill in the art to have looked at a commercial product for this information.

Guttman ('777) discloses the capillary electrophoresis system as discussed with regards to claim 27 above.

Regarding claim 28, Guttman ('777) discloses the capillary electrophoresis system wherein said dextran has a molecular weight of 2,000 kilodaltons (column 5, lines 63 – 67) but does not explicitly disclose the linkages therein. The Dextran Product Information reference is cited as evidence that commercially available dextran possesses a non-cross-linked structure composed of approximately 95% alpha-D-(1-6) linkages (1st page left hand column, Product Description paragraph, first 4 lines). Guttman ('777) discloses the molecular weight of dextran but not its composition. Therefore, it would have been obvious to one of ordinary skill in the art to have looked at a commercial product for this information.

10. Claims 14 – 15 and 32 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guttman et al. (US 5,370,777) in view of Guttman (US 5,213,669).

Guttman ('777) discloses the aqueous gel medium as discussed with regards to claim 13 above.

Regarding claim 14, Guttman ('777) does not explicitly disclose the alcohol is glycerol.

Guttman ('669) teaches an aqueous gel medium wherein the alcohol is glycerol (column 5, lines 7 – 8).

It would have been obvious to one of ordinary skill in the art to have modified the aqueous gel medium of Guttman ('777) to include glycerol as taught by Guttman ('669) because as explained by Guttman ('669), the "polyol" (glycerol and ethylene glycol being representative examples), help to coat the inner walls of capillaries that they occupy (column 5, lines 3 – 7).

Regarding claim 15, Guttman ('669) teaches an aqueous gel medium wherein glycerol is present at a concentration of from about 0.1% to about 30% (V/V) (column 4, line 67 – column 5, line 3).

Guttman ('777) discloses the capillary electrophoresis system as discussed with regards to claim 31 above.

Regarding claim 32, Guttman ('777) does not explicitly disclose the alcohol is glycerol.

Guttman ('669) teaches a capillary electrophoresis system wherein the alcohol is glycerol (column 5, lines 7 – 8).

It would have been obvious to one of ordinary skill in the art to have modified the capillary electrophoresis system of Guttman ('777) to include glycerol as taught by Guttman ('669) because as explained by Guttman ('669), the "polyol" (glycerol and ethylene glycol being representative examples), help to coat the inner walls of capillaries that they occupy (column 5, lines 3 – 7).

Response to Arguments

11. Applicant's arguments filed 22 June 2007 have been fully considered but they are not persuasive. The Declaration of Yu Liu, Ph.D. pursuant to 37 C.F.R. §1.132 filed on 22 June 2007 has also been considered. Applicant's previous arguments regarding use of SDS at a pH of 8.3 or less repeated in the current remarks section are not persuasive for the same reasons given in response by the Office on 6 March 2007. Regarding applicant's remarks directed to the new limitation "uncoated capillary" in each of independent claims 1 and 19, applicant is referred to column 6, lines 52 – 67, column 9, lines 64 – 68 and column 11, lines 43 – 47 of Guttman ('777) which clearly disclose the use of uncoated capillaries and disclose that the capillary may be used with or without coating. In addition, applicant is reminded that the "uncoated capillary" is not part of the claimed gel medium with regards to claim 1. Similarly, remarks directed to "reducing reagents that function to help keep protein analytes in a reduced form" are not persuasive as "protein analytes" are not part of the claimed gel medium of claim 1 or capillary electrophoresis system of claim 19. In addition the reducing reagents incorporated in the gel medium of Guttman ('777) regardless of their relative mobility

with respect to protein analytes, still "help" by virtue of their inherent reducing capability. Alternatively, the reducing agent will break the disulfide bonds in protein analytes and the resultant product with sulfhydryl groups (-SH) are reducing agents. Applicant's arguments with respect to claims 10 and 28 have been considered but are moot in view of the new ground(s) of rejection. Regarding claims 14 – 15 and 32 – 33 applicants argue that neither Guttman ('777) nor Guttman ('669) individually disclose all the limitations of the claims. There is no requirement that each reference disclose every element of the claim. Grounds for rejection are that the combined teaching of the references would have rendered the claimed subject matter obvious to one of ordinary skill in the art at the time of the invention.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Dextran Sulfate Product Information" Sigma-Aldrich (2001) found at http://www.sigmaaldrich.com/sigma/product%20information%20sheet/d8906pis.pdf discloses that dextran is composed of approximately 95% alpha-D-(1-6) linkages.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Surekha Vathyam whose telephone number is 571-272-2682. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SV/
5 July 2007

NAM NGUYEN
SUPERVISORY PATENT EXAMINER
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